

Translation

PATENT COOPERATION TREATY

PCT/JP2004/005818



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference A41260A	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2004/005818	International filing date (day/month/year) 22 April 2004 (22.04.2004)	Priority date (day/month/year) 22 April 2003 (22.04.2003)
International Patent Classification (IPC) or national classification and IPC C12M 1/42, C12N 13/00		
Applicant RIKEN		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input checked="" type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) <u>1 flexible disk</u>, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>	

Date of submission of the demand 22 April 2004 (22.04.2004)	Date of completion of this report 23 February 2005 (23.02.2005)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/005818

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☐ the description:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP04/005818

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	4-7, 9	YES
	Claims	1-3, 8	NO
Inventive step (IS)	Claims		YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The following documents 1-6 are cited in the ISR:

Document 1: JP, 2003-225, A (Hakuju Institute for Health Science Co., Ltd.), 7 January, 2003 (07.01.03), the claims, paragraphs [0016], [0017] and [0020], Fig. 2

Document 2: JP, 63-276478, A (Shimadzu Corp.), 14 November, 1988 (14.11.88), the claims, page 1, right column, lines 13-16, Figs. 1 and 2

Document 3: JP, 62-265976, A (Shimadzu Corp.), 18 November, 1987 (18.11.87), the claims, page 1, right column, lines 6-10, Figs. 1 and 2 (Family: none)

Document 4: JP, 2000-350573, A (Matsushita Electric Industrial Co., Ltd.), 19 December, 2000 (19.12.00), paragraph [0009]

Document 5: JP, 2003-505073, A (The Regents of the University of California), 12 February, 2003 (12.02.03), paragraph [0043]

Document 6: JP, 2001-515343, A (Massachusetts Institute of Technology), 18 September, 2001 (18.09.01), the claims

The subject matters of claims 1, 2 and 8 do not appear to be novel in view of document 1.

Document 1 describes a container having a lower electrode provided on its bottom and a culture device having an upper electrode disposed opposite the said lower electrode, and describes that a predetermined voltage is applied to the said electrodes. As seen in Fig. 6, the positional relationship between the two electrodes corresponds to that between the electrodes described in claim 2.

The subject matters of claims 1, 3 and 8 do not appear to be novel in view of document 2.

Document 2 describes an electric cell-stimulating chamber constituted of (a) a first ring electrode having a plurality of concentric electrode plates that is contained in a container and (b) a second ring electrode having a plurality of concentric electrode plates having different radii from the first ring electrode that is fixed on a lid.

The subject matters of claims 1, 3 and 8 do not appear to be novel in view of document 3.

Document 3 describes a cell-fusion chamber constituted of a plurality of cell-fusion tanks formed in one container, each tank having a pair of electrodes opposite each other between which a cell-suspension liquid is contained. The said cell-fusion tank corresponds to the culture container for grown cells described in the claims.

Supplemental Box Relating to Sequence Listing

Continuation of Box No. 1, item 2:

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this report was established on the basis that of:
 - a. type of material
 - ☒ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material
 - ☐ in written format
 - ☒ in computer readable form
 - c. time of filing/furnishing
 - ☐ contained in the international application as filed
 - ☒ filed together with the international application in computer readable form
 - ☐ furnished subsequently to this Authority for the purpose of search and/or examination
 - ☐ received by this Authority as an amendment* on _____
2. ☒ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

** If item 4 in Box No. 1 applies, the listing and /or table(s) related thereto, which form part of the basis of the report, may be marked "superseded".*

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: V

The subject matters of claims 3-7 do not appear to involve an inventive step in view of documents 1-5.

A ring electrode is well known, for example, as described in documents 2 and 3; a meshed sheet-shaped electrode is well known, for example, as described in document 4, and a needle-like or needle-arrayed electrode is well known, for example, as described in document 5.

Accordingly, a person skilled in the art could have easily used such a well-known electrode as a meshed sheet-shaped electrode, or a needle-like or needle-arrayed electrode, described in documents 2-5, for the electrode described in document 1.

The subject matter of claim 9 does not appear to involve an inventive step in view of documents 1, 2 and 6.

Applying a voltage to nerve cells was well known, as described in document 6, so a person skilled in the art could have easily chosen the nerve cells described in document 7 as cells to which a voltage is applied, described in documents 1 and 2.